

ABSTRACT

A protective covering system having high-flexibility and low areal density characteristics. In one aspect of the invention, the protective system includes a plurality of
5 metallic staples or wire elements secured to multi-layer matrix including woven fibers, the
layers being oriented at cross angles to provide a grid-like pattern of protective elements.
In one aspect of the invention, protective elements provide a coverage area of less than
90% and as little as 40% of total surface area. In one aspect of the invention, protective
elements may be mechanically secured to a matrix by a puncture and crimp process. In
10 another, wire elements may be attached or woven into one or more matrix layers.

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